

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001435**Date Inspected:** 16-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1600**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Wu Ming Kai			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>

**Bridge No:** 34-0006**Component:** OBG & Tower Mock Up**Summary of Items Observed:**

Caltrans Quality Assurance Inspector Gabriel Quintana (QA Inspector) arrived at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to observe fabrication and Quality Control Inspectors (QC Inspectors) perform their duties and responsibilities as specified in the contract documents, approved plans, fabrications documents and Special Provisions for this project. While on site the QA Inspector observed the following.

Bay 3- QA Inspector randomly observed ZPMC qualified welder He Yumei Identification (ID) #048625 utilizing the Flux Core Arc Welding (FCAW) process per the approved Weld Procedure Specification (WPS) WPS-B-T-2132-2 while performing tack welding on Side Plate SP12 weld joints SP012-01-023/024 and SP012-01-025/026 to plate PL72A. QA Inspector observed ZPMC QC Inspector Wu Ming Kai monitoring welding and preheating parameters. The QA Inspector also randomly monitored weld parameters used and recorded them as the following: 203 amps, 29.5 volts. The weld parameters appeared to comply with contract requirements and the approved WPS.

Bay 3- QA Inspector randomly observed ZPMC qualified welder Wang Zhonghua ID #053753 utilizing the Shielded Metal Arc (SMAW) process per the approved procedure WPS-B-T-2112-FCM while performing tack welding on Side Plate SP44 weld joints SP044-01-007/008 to plate PL91D and Side Plate SP43 weld joints SP043-01-015/016 and SP043-01-019/020 and to plate PL19B. QA Inspector observed QC Inspector Wu Ming Kai monitoring welding and preheating parameters. The QA Inspector also randomly monitored weld parameters used and recorded them as the following using 4.0mm diameter electrode: amperage 190 amps, welding voltage 23 volts. The weld parameters appeared to comply with contract requirements and the approved WPS.

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Bay 3- QA Inspector randomly observed ZPMC qualified welder Sun Tiyu Identification (ID) #054459 utilizing the FCAW process per the approved welding procedure WPS-B-T-2132-2 while performing tack welding on Side Plate SP12 weld joints SP012-01-015/016 and SP012-01-017/018 to plate PL72A. QA Inspector observed ZPMC QC Inspector Wu Ming Kai monitoring welding and preheating parameters.

Bay 3- QA Inspector observed four ZPMC welders using welding procedure specification WPS-B-T-2132-3 to make flux cored fillet welds on eight Side Plate stiffeners to plate PL17A and PL17B at the same time using multiple flux cored welding manipulators attached to a movable gantry that runs on a track along the length of the stiffeners. The QA Inspector observed a welding travel speed of approximately 470mm per minute. Each of the welders is responsible for two of the flux cored welding heads. All welders are using 1.4 mm diameter E71T-1 rolls of electrodes that have been marked as being installed earlier today. Welder Liu Zihong ID #062447 completed weld SP009-01-016 with a welding current of approximately 273 amps and 28 volts and weld SP009-01-017 with a welding current of approximately 274 amps and 31 volts. Welder Xin Meng ID #053742 completed weld SP009-01-024 with a welding current of approximately 289 amps and 30.9 volts and weld SP009-01-025 with a welding current of approximately 285 amps and 30.4 volts. Welder Li Shuliang ID#048801 completed weld SP009-01-028 with a welding current of approximately 273 amps and 30.8 volts and weld SP009-01-029 with a welding current of approximately 274 amps and 30.2 volts. Welder Li Xuehuy ID #058174 completed weld SP009-01-020 with a welding current of approximately 283 amps and 29.5 volts and weld SP009-01-021 with a welding current of approximately 275 amps and 30 volts. Items observed by the QA Inspector appear to comply with the contract requirements and the approved WPS.

Bay 2- QA Inspector observed QC Inspectors Li Li Ming and Zue Haivong performing an ultrasonic inspection on the 77 Meter Mockup at skin "E" to "D", weld map MAU-MA1-D/F-17B. QA Inspector observed that inspections were performed using a 0 degree, 60 degree and 70 degree angle. QC Inspector Li Li Ming informed QA Inspector that he was completed with the inspection at this time but did not stencil on part indicating that the weld joint was complete and accepted by ultrasonic inspection. QA Inspector observed that no testing using the final leg per the general notes of D1.5 Table 6.2 was performed using a 45 degree angle.



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## Summary of Conversations:

General communications took place between the QA and QC Inspector.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Quintana, Gabriel	Quality Assurance Inspector
<b>Reviewed By:</b>	Cochran, Jim	QA Reviewer

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